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09/853,422	05/10/2001	Clive Eric Holborow	D2492	6769

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EXAMINER	
MOORE JR, MICHAEL J	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 10/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/853,422	HOLBOROW, CLIVE ERIC	
	Examiner	Art Unit	
	Michael J. Moore, Jr.	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 May 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/26/01, 2/13/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 7/26/01 and 2/13/03 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statements.

Drawings

2. The drawings are objected to because of the following informalities: In Figure 1, step 16 includes a misspelling. The word "supression" should be –suppression--. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims **2-7, and 9-20** are objected to because of the following informalities:

Regarding claims **2-7, 9, and 10**, on line 1, the phrase "A system" should be --The system--.

Regarding claims **11, 14, 15, and 19,** on line 1, the term "Apparatus" should be --An apparatus--.

Regarding claims **12, 13, 16-18, and 20,** on line 1, the term "Apparatus" should be --The apparatus--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1-20** are rejected under 35 U.S.C. 102(e) as being anticipated by Bunn et al. (US 2002/0073227). The Bunn et al. reference teaches all of the limitations of the listed claims with the reasoning that follows.

Regarding claim **1**, "A system for compressing and decompressing information packets transmitted from a first terminal to a second terminal" is anticipated by the system shown in Figure 1 with CMTS 102 and cable modems 106, 108. "Suppression

means in the first terminal adapted to use a predetermined suppression algorithm for removing at least one field that varies in a known pattern from a payload header of an information packet being transmitted to the second terminal" is anticipated by the cable modem (suppression means) shown in Figure 3 as well as the suppression of changing header fields spoken of on page 9, paragraph 140, lines 2-8. "Restoration means in the second terminal adapted to use a predetermined restoration algorithm for restoring the removed at least one field that varies in the known pattern to the payload header of an information packet received from the first terminal" is anticipated by the CMTS (restoration means) shown in Figure 2 as well as the header reconstruction spoken of on page 10, paragraph 153.

"Wherein the first and second terminals respectively include means for processing and exchanging service control messages that include encoding extensions identifying the removed at least one field that varies in the known pattern and indicating a scheme for restoring the identified at least one field" is anticipated by the information (service control message) concerning header suppression communicated from CM 108 to CMTS 104 spoken of on page 10, paragraph 153. This information includes an index number (encoding extension) that indicates the type of packet header suppression used (identifies removed header fields) as well as the rules (scheme) associated with the suppression and reconstruction of the packet. Lastly, "restoring the at least one identified removed field that varies in the known pattern in accordance with the scheme for restoring the identified at least one field indicated by the encoding extensions" is anticipated by the header reconstruction spoken of on page 10, paragraph 153.

Regarding claim **2**, "wherein the suppression means is further adapted to use a predetermined suppression routine for removing fields having a fixed value from the payload header of the information packets being transmitted to the second terminal" is anticipated by the cable modem (suppression means) shown in Figure 3 as well as the DOCSIS PHS spoken of on page 9, paragraph 142. "Wherein the restoration means is further adapted to use a predetermined restoration routine that is complementary to the predetermined suppression routine for restoring the removed fixed-value fields to the payload header of information packets received from the first terminal" is anticipated by the data packet expansion spoken of on page 9, paragraph 138, lines 5-10. Lastly, "wherein the predetermined suppression routine, the predetermined restoration routine and the service control messages are in accordance with a DOCSIS payload-header-suppression specification" is anticipated by the DOCSIS PHS spoken of on page 9, paragraph 142.

Regarding claims **3 and 16**, "from time to time restoring the removed field by using an associated refresh field received with the information packet" is anticipated by learn bit "L" 1002 (refresh field) of control value byte 1000 shown in Figure 10 used to indicate to CMTS 104 to learn the full header (refresh) upon an incorrect header reconstruction as spoken of on page 10, paragraph 148.

Regarding claims **4 and 9**, "providing a refresh control field identifying a refresh field that is to be transmitted with the discrete information packet; providing the refresh field identified by the refresh control field for transmission to the second terminal with the discrete information packet; and providing a control field that includes the refresh

control field for transmission to the second terminal with the discrete information packet" is anticipated by learn bit "L" 1002 (refresh field) of control value byte 1000 (refresh control field) shown in Figure 10 used to indicate to CMTS 104 to learn the full header (refresh) upon an incorrect header reconstruction as spoken of on page 10, paragraph 148.

Regarding claims **5, 10, 17, and 20**, "in accordance with the refresh control field received with the discrete information packet, identifying the associated refresh field received with the discrete information packet" is anticipated by step 1108 of Figure 11 where a determination is made whether CMTS 104 has learned RTP packet 910 (learn header control bit identified) as spoken of on page 10, paragraphs 155 and 156.

Regarding claim **6**, "wherein one of the encoding extensions indicates a fixed partial value of a given field that is to be removed by the suppression means; and providing a variable remaining portion of the removed given field for transmission with the discrete information packet" is anticipated by the information concerning header suppression communicated from CM 108 to CMTS 104 spoken of on page 10, paragraph 153 that includes an index number (encoding extension) that indicates the type of packet header suppression used (identifies removed header fields) as well as the rules associated with the suppression and reconstruction of the packet. Lastly, "restoring the removed given field by using the variable remaining portion of the removed given field with the discrete information packet in combination with the fixed partial value of the given field" is anticipated by the data packet expansion by CMTS

104 using rules corresponding to the provided index number as spoken of on page 9, paragraph 138, lines 5-10.

Regarding claim **7**, "wherein the suppression means provides constant-length compressed information packets for transmission to the remote terminal" is anticipated by the DOCSIS PHS fixed length transmission spoken of on page 1, paragraph 17.

Regarding claim **8**, "A system for compressing and decompressing information packets transmitted from a first terminal to a second terminal" is anticipated by the system shown in Figure 1 with CMTS 102 and cable modems 106, 108. "Suppression means in the first terminal adapted to use a predetermined suppression algorithm for removing at least one field that varies in a known pattern from a payload header of an information packet being transmitted to the second terminal" is anticipated by the cable modem (suppression means) shown in Figure 3 as well as the suppression of changing header fields spoken of on page 9, paragraph 140, lines 2-8.

"Restoration means in the second terminal adapted to use a predetermined restoration algorithm for restoring the removed at least one field that varies in the known pattern to the payload header of an information packet received from the first terminal" is anticipated by the CMTS (restoration means) shown in Figure 2 as well as the header reconstruction spoken of on page 10, paragraph 153. Lastly, "from time to time restoring the at least one removed field that varies in the known pattern by using an associated refresh field received with the information packet" is anticipated by learn bit "L" 1002 (refresh field) of control value byte 1000 shown in Figure 10 used to indicate to

CMTS 104 to learn the full header (refresh) upon an incorrect header reconstruction as spoken of on page 10, paragraph 148.

Regarding claim **11**, "Apparatus for compressing information packets for transmission to a remote terminal" is anticipated by the system shown in Figure 1 with CMTS 102 and cable modems 106, 108. "Suppression means adapted to use a predetermined suppression algorithm for removing at least one field that varies in a known pattern from a payload header of an information packet being transmitted to the remote terminal" is anticipated by the cable modem (suppression means) shown in Figure 3 as well as the suppression of changing header fields spoken of on page 9, paragraph 140, lines 2-8.

"Means for processing and exchanging service control messages with the remote terminal, wherein the service control messages include encoding extensions identifying the removed at least one field that varies in the known pattern and indicating a scheme for restoring the identified at least one field" is anticipated by the information (service control message) concerning header suppression communicated from CM 108 to CMTS 104 spoken of on page 10, paragraph 153. This information includes an index number (encoding extension) that indicates the type of packet header suppression used (identifies removed header fields) as well as the rules (scheme) associated with the suppression and reconstruction of the packet. Lastly, "wherein the suppression means provides constant-length compressed information packets for transmission to the remote terminal" is anticipated by the DOCSIS PHS fixed length transmission spoken of on page 1, paragraph 17.

Regarding claim **12**, "wherein the suppression means is further adapted to use a predetermined suppression routine for removing fields having a fixed value from the payload header of the information packets being transmitted to the remote terminal" is anticipated by the cable modem (suppression means) shown in Figure 3 as well as the DOCSIS PHS spoken of on page 9, paragraph 142. Lastly, "wherein the predetermined suppression routine and the service control messages are in accordance with a DOCSIS payload-header-suppression specification" is anticipated by the DOCSIS PHS spoken of on page 9, paragraph 142.

Regarding claim **13**, "wherein one of the encoding extensions indicates a fixed partial value of a given field that is to be removed by the suppression means; and providing a variable remaining portion of the removed given field for transmission with the discrete information packet" is anticipated by the information concerning header suppression communicated from CM 108 to CMTS 104 spoken of on page 10, paragraph 153 that includes an index number (encoding extension) that indicates the type of packet header suppression used (identifies removed header fields) as well as the rules associated with the suppression and reconstruction of the packet.

Regarding claim **14**, "Apparatus for compressing information packets for transmission to a remote terminal" is anticipated by the system shown in Figure 1 with CMTS 102 and cable modems 106, 108. "Suppression means adapted to use a predetermined suppression algorithm for removing at least one field that varies in a known pattern from a payload header of an information packet being transmitted to the remote terminal" is anticipated by the cable modem (suppression means) shown in

Figure 3 as well as the suppression of changing header fields spoken of on page 9, paragraph 140, lines 2-8. "Providing a refresh control field identifying a refresh field that is to be transmitted with the discrete information packet; providing the refresh field identified by the refresh control field for transmission to the remote terminal with the discrete information packet; and providing a control field that includes the refresh control field for transmission to the remote terminal with the discrete information packet" is anticipated by learn bit "L" 1002 (refresh field) of control value byte 1000 (refresh control field) shown in Figure 10 used to indicate to CMTS 104 to learn the full header (refresh) upon an incorrect header reconstruction as spoken of on page 10, paragraph 148.

Regarding claim **15**, "Apparatus for decompressing transmitted information packets received from a remote terminal" is anticipated by the system shown in Figure 1 with CMTS 102 and cable modems 106, 108. "Restoration means adapted to use a predetermined restoration algorithm for restoring a removed at least one field that varies in a known pattern to the payload header of an information packet received from the remote terminal" is anticipated by the CMTS (restoration means) shown in Figure 2 as well as the header reconstruction spoken of on page 10, paragraph 153.

"Means for processing and exchanging service control messages with the remote terminal, wherein the service control messages include encoding extensions identifying the removed at least one field that varies in the known pattern and indicating a scheme for restoring the identified at least one field" is anticipated by the information (service control message) concerning header suppression communicated from CM 108 to CMTS 104 spoken of on page 10, paragraph 153. This information includes an index number

(encoding extension) that indicates the type of packet header suppression used (identifies removed header fields) as well as the rules (scheme) associated with the suppression and reconstruction of the packet. Lastly, "restoring the at least one identified removed field that varies in the known pattern in accordance with the scheme for restoring the identified at least one field indicated by the encoding extensions" is anticipated by the header reconstruction spoken of on page 10, paragraph 153.

Regarding claim **18**, "wherein one of the encoding extensions indicates a fixed partial value of a given field that is to be removed by the suppression means" is anticipated by the information concerning header suppression communicated from CM 108 to CMTS 104 spoken of on page 10, paragraph 153 that includes an index number (encoding extension) that indicates the type of packet header suppression used (identifies removed header fields) as well as the rules associated with the suppression and reconstruction of the packet. Lastly, "restoring the removed given field by using the variable remaining portion of the removed given field with the discrete information packet in combination with the fixed partial value of the given field" is anticipated by the data packet expansion by CMTS 104 using rules corresponding to the provided index number as spoken of on page 9, paragraph 138, lines 5-10.

Regarding claim **19**, "Apparatus for decompressing transmitted information packets received from a remote terminal" is anticipated by the system shown in Figure 1 with CMTS 102 and cable modems 106, 108. "Restoration means adapted to use a predetermined restoration algorithm for restoring a removed at least one field that varies in a known pattern to the payload header of an information packet received from the

remote terminal" is anticipated by the CMTS (restoration means) shown in Figure 2 as well as the header reconstruction spoken of on page 10, paragraph 153. Lastly, "from time to time restoring the at least one removed field that varies in the known pattern by using an associated refresh field received with the information packet" is anticipated by learn bit "L" 1002 (refresh field) of control value byte 1000 shown in Figure 10 used to indicate to CMTS 104 to learn the full header (refresh) upon an incorrect header reconstruction as spoken of on page 10, paragraph 148.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bunn et al. (US 2002/0106029), Horton, Jr. et al. (U.S. 6,788,707), Chapman (U.S. 6,594,280), Jonsson et al. (U.S. 6,754,231), Hamiti et al. (U.S. 6,751,209), and Koodli (U.S. 6,608,841) are all references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666

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FRANK DUONG
PRIMARY EXAMINER